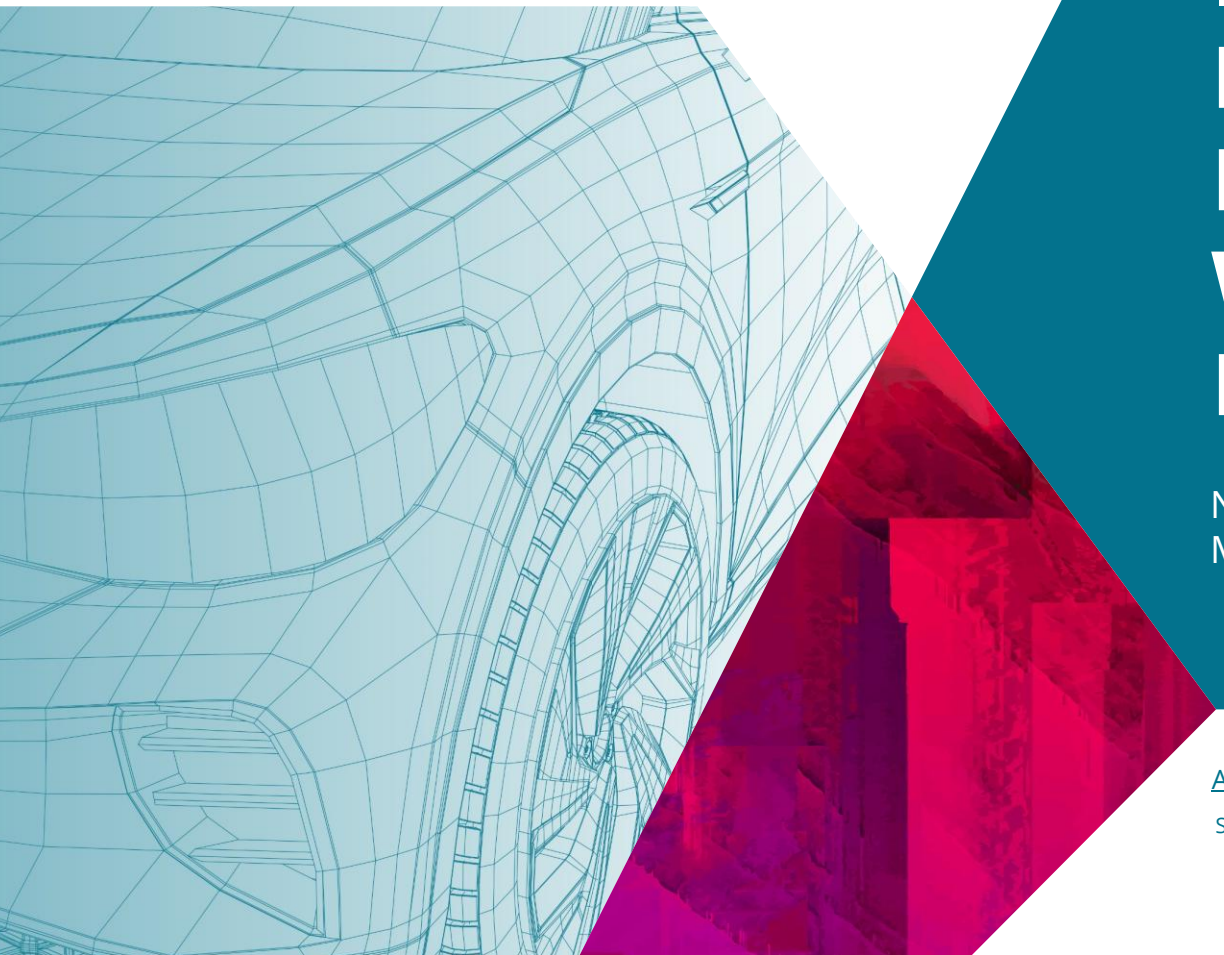
SCALE
IT-Solutions for CAE

NAFEMS



Integrating Workflows with Project-Based CAE Environments such as ANSYS Workbench into Simulation Data Management

NAFEMS DACH Regional Conference, Bamberg
May 6th, 2026

Akhil Pillai, Marko Thiele, Kim Schäbe
SCALE GmbH

SCALE SDM

Ansys

1 Challenge | Workbench Project Versioning?

2 What is SCALE.sdm?

3 SCALE.sdm + AnsysWorkbench

4 Workflow Setup

5 Outcome & Anticipated ROIs

Challenge | Workbench Project

kindly generated by Gemini

Challenge | Workbench Project versioning

Risky Manual Copying

- broken links
- duplicated results
- high risk of data loss

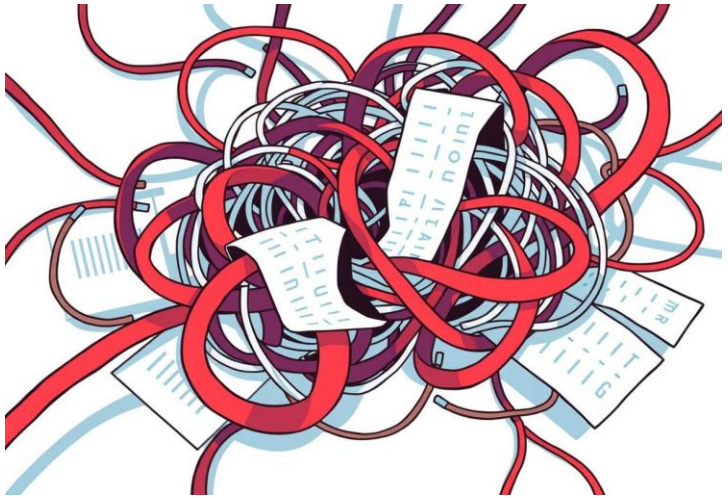
kindly generated by Gemini

Untraceable Changes

- Parameter sets drift
- Design points drift
- Loss of context

Hard to repeat result

- Critical context
- metadata
- Approval history



Inefficient Sharing

- folder-based
- Email-based
- Excel file for tracking

What is SCALE.sdm?

Central hub

- Inputs, results and workflows

Open and flexible

- seamless integration into existing it-infrastructure and tools

Solver Agnostic

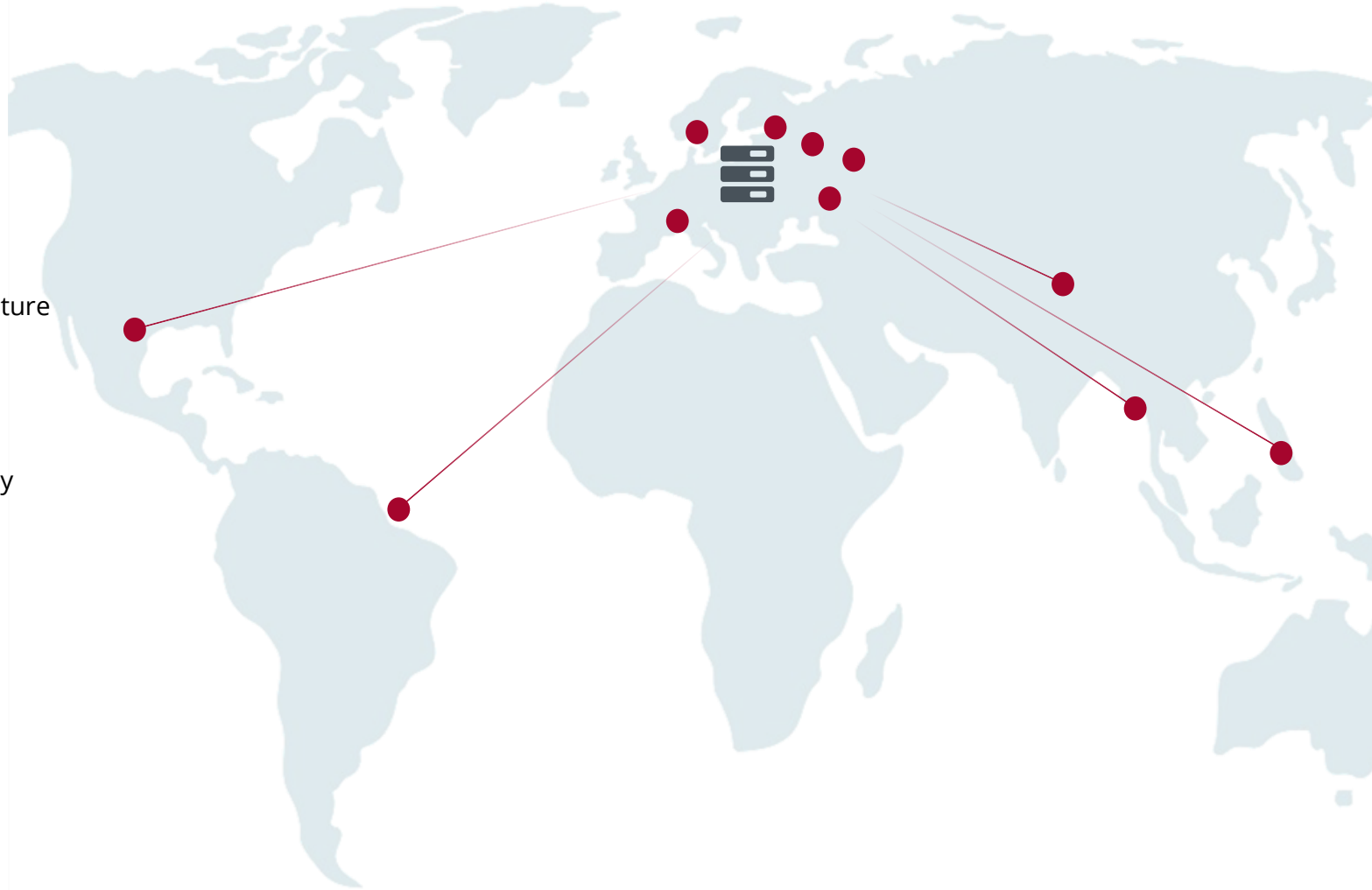
- Solver-independent - Flexible approach for any solver

Scalable

- Used with millions simulations per instance productively

ML / AI ready

- AI-support for workflows



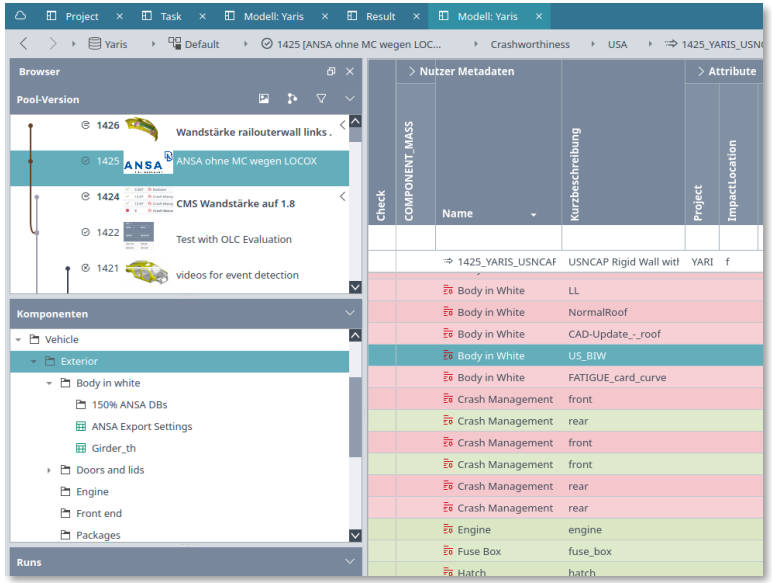
SCALE.sdm

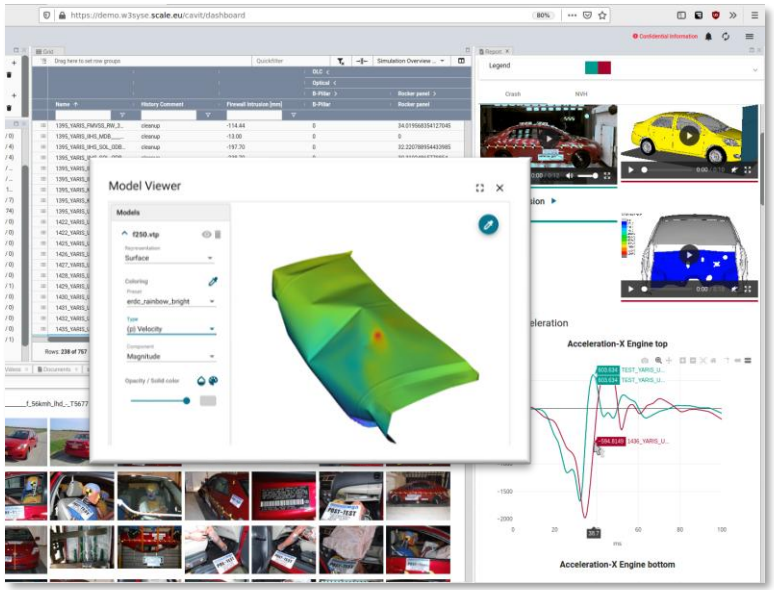
SCALE.SDM

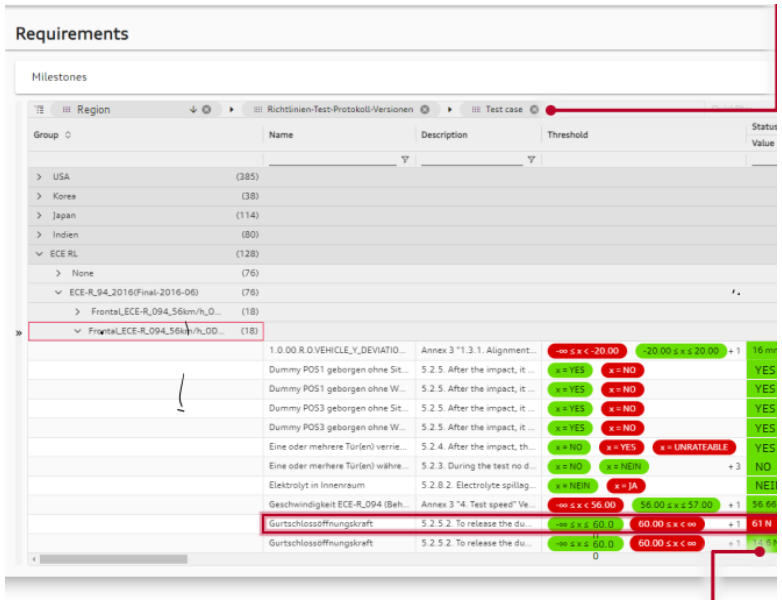
Model
Input Data Management

Result
Storage & Evaluation

Project
Monitor Targets







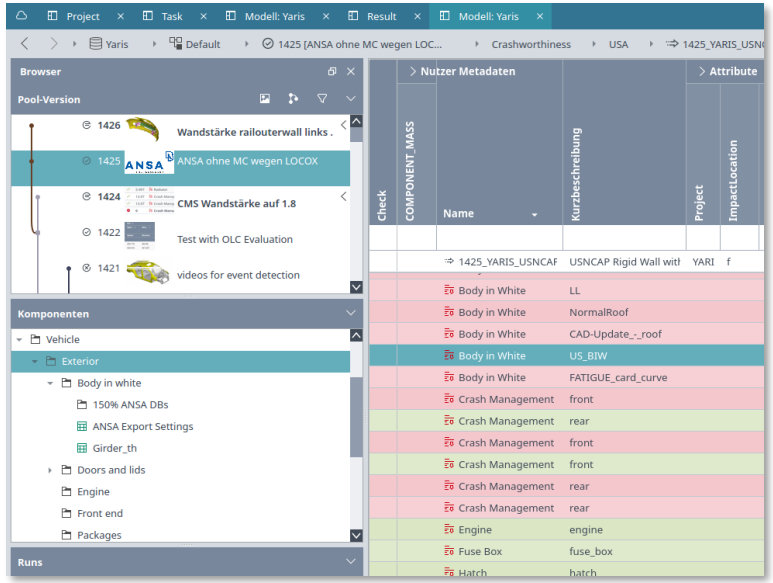
SCALE.sdm | Key Features: Version Management & Team Collaboration

SCALE.SDM

Model
Input Data Management

Result
Storage & Evaluation

Project
Monitor Target



- **Colloborate in team**
  - Share your model data with the team.
  - Versioning and keeping track of all changes to item and project level assets of Workbench project
- **Automate process**
  - Integrate pre/post scripts for streamlining workflow and reducing manual effort
- **Search and Auditibility**
  - find objects by parameter or project metric.
  - Integrated comments, immutable baseline and tagged milestones

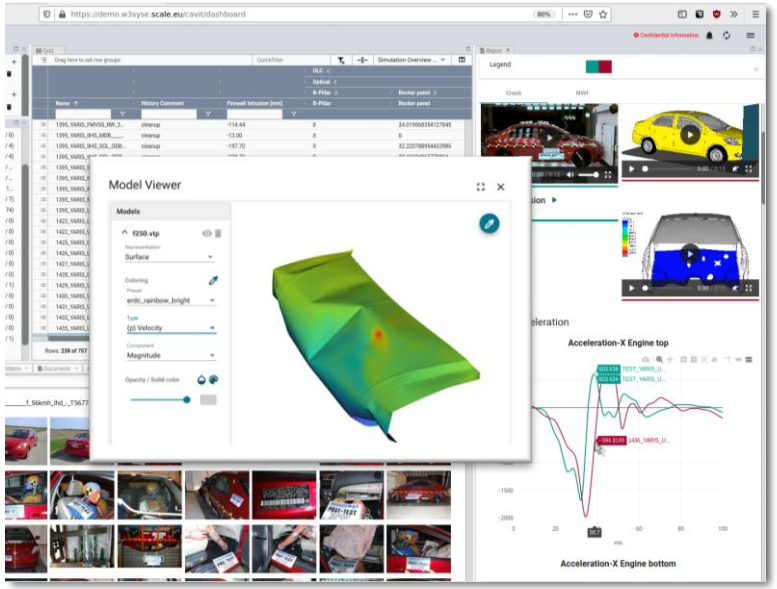
SCALE.sdm | Key Features: Visualization & Reporting

SCALE.SDM

Model
Input Data Management

Result
Storage & Evaluation

Project
Monitor Targets



- **Data Platform -** *Manage all Post Data at a single place*
  - Manage, search, sort all your simulation and physical test data
  - Instantly view curves, videos, 3D data
- **Dynamic Web-Reports & Additional Reporting based on 3rd party tools**
  - Reporting of selected results, interactively explore charts and models
- **Data analysis and AI-Tools Integration**
  - Classical data analysis is integrated – AI based on tools and platforms

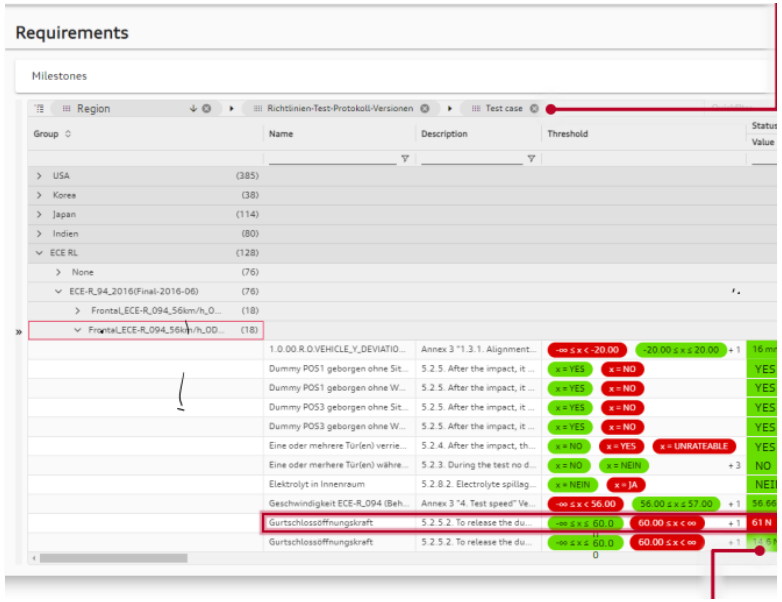
SCALE.sdm | Key Features: Project Monitoring

SCALE.SDM

Model
Input Data Management

Result
Storage & Evaluation

Project
Monitor Status



- **Define Project Goals**
  - Setup all requirements with any details (Market, Regulation, Components, ...)
- **Validate any simulation/test against requirements**
  - Get instant highlighting for your key results
- **Monitor status**
  - Get an aggregated project status
  - Deep dive into referenced simulation if necessary

1 Challenge | Workbench Project Versioning?

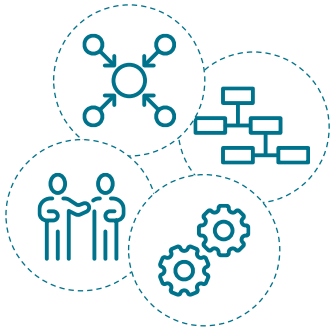
2 What is SCALE.sdm?

3 SCALE.sdm + AnsysWorkbench

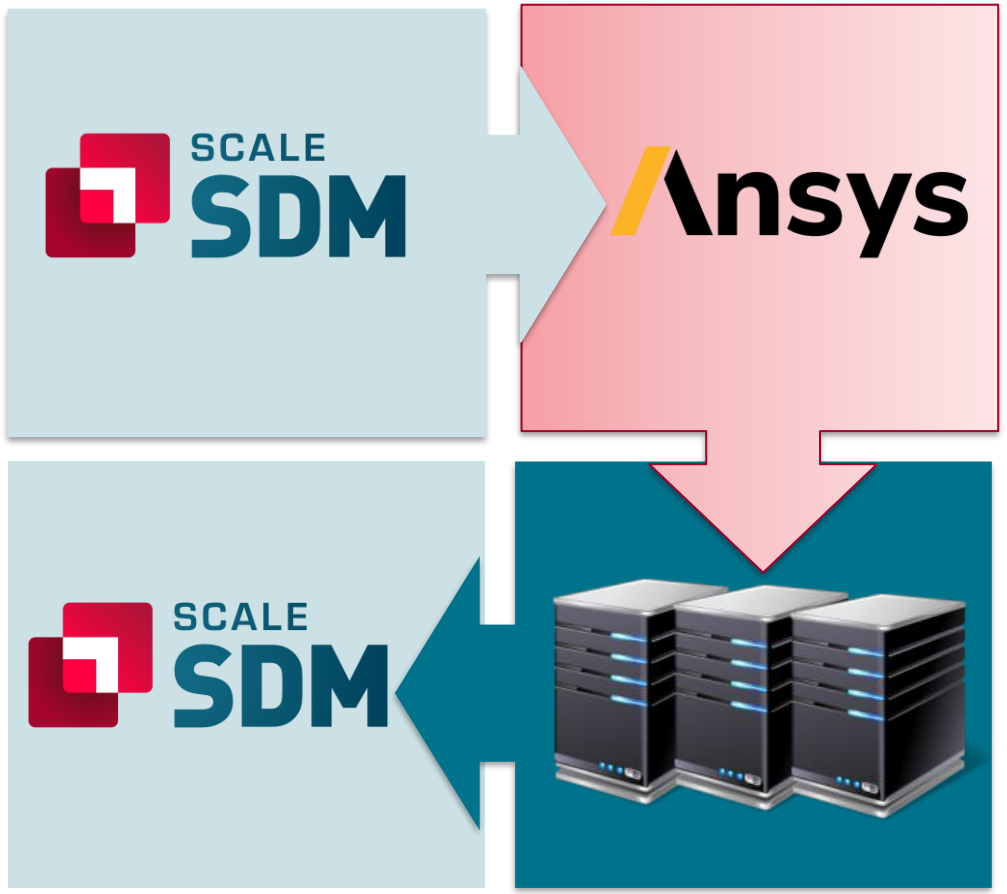
4 Workflow Setup

5 Outcome & Anticipated ROIs &

SCALE.sdm + Ansys Workbench: Integration Overview



model & process management in SCALE.model



Engineering in Workbench

store results in SCALE.result

Solving in HPC clusters

This integration pattern ensures a scalable and traceable simulation workflow

1 Challenge | Workbench Project Versioning?

2 What is SCALE.sdm?

3 SCALE.sdm + AnsysWorkbench

4 Workflow Setup

5 Outcome & Anticipated ROIs

Workflow with SCALE.sdm

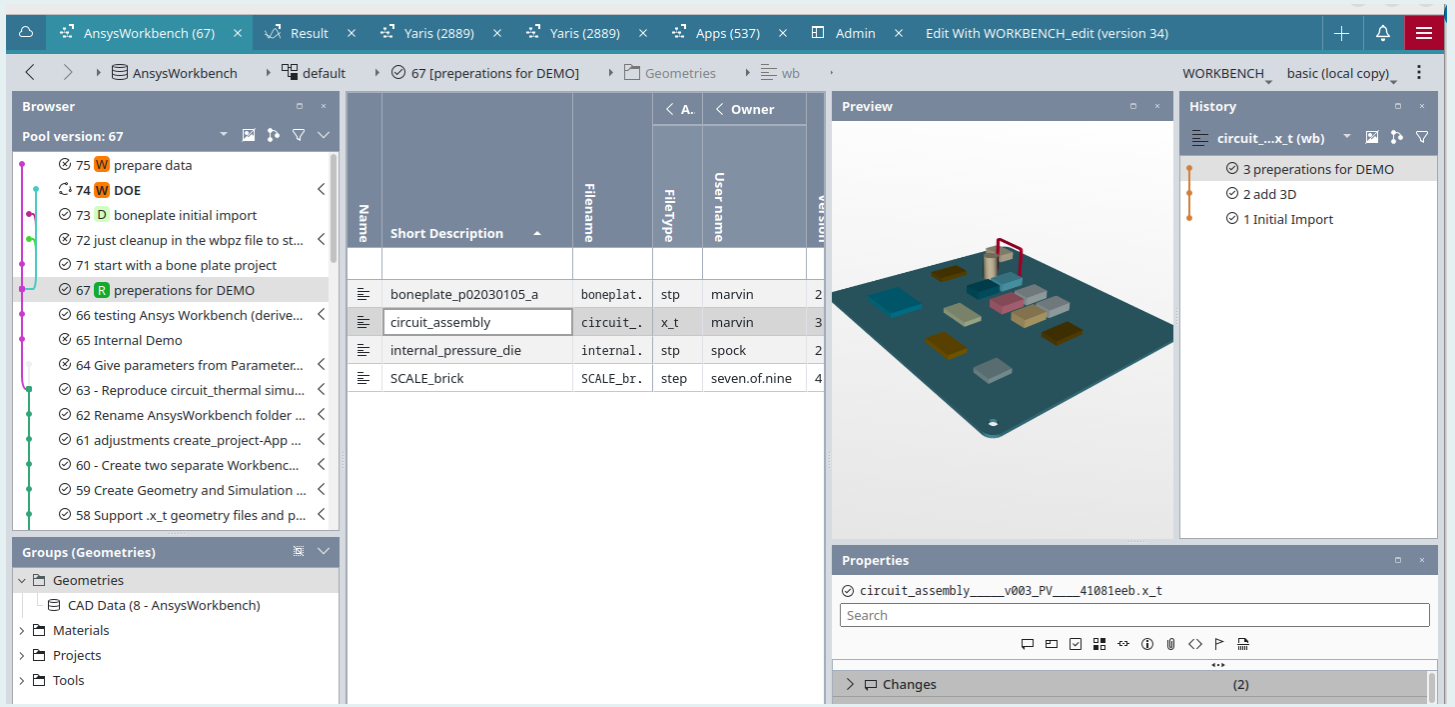
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

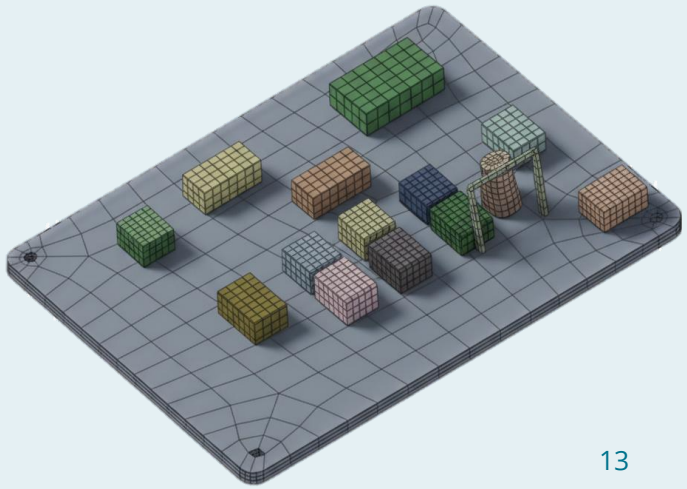
Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



- Desktop application as IDE for engineers
- Discipline and solver independent
- Access and organize all input files
- Allows integration of local CAE tools
- Interfaces with CAD world



SCALE | NAFEMS

Workflow with SCALE.sdm

Import from CAD
Integration with PLM Systems

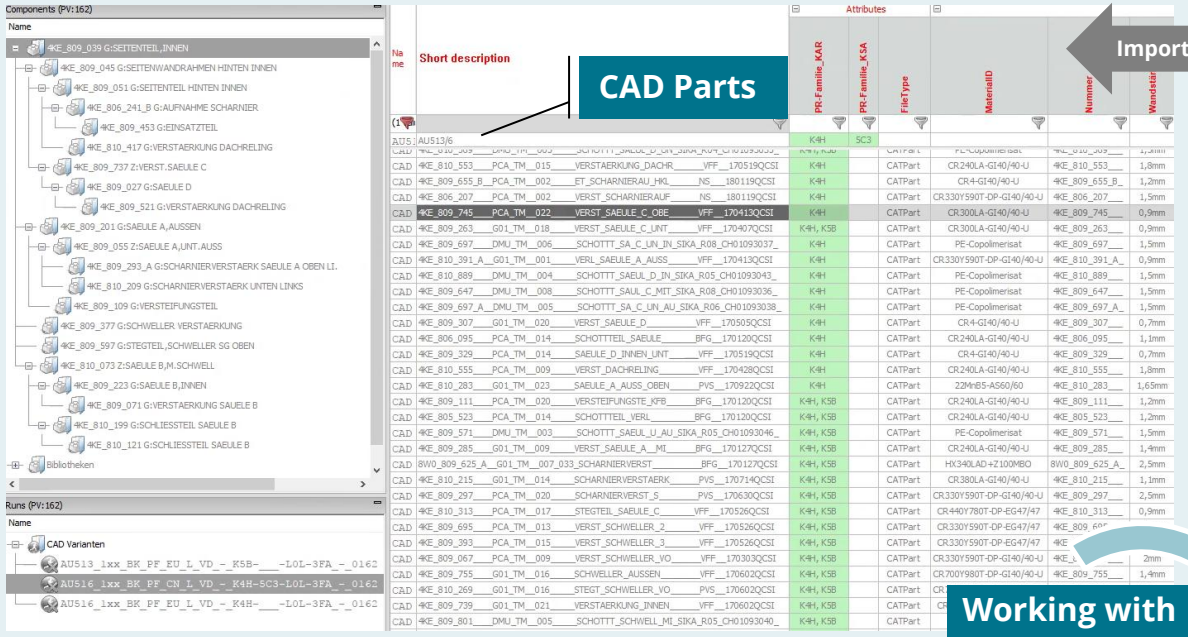
Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

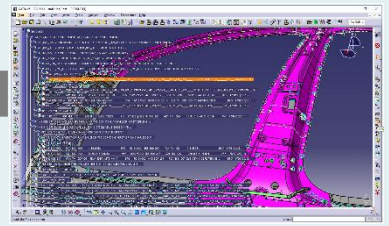
Version Control
Manage changes

Result evaluation
Result storage and evaluation

CAD & PDM Systems
Teamcenter, Siemens NX, ...



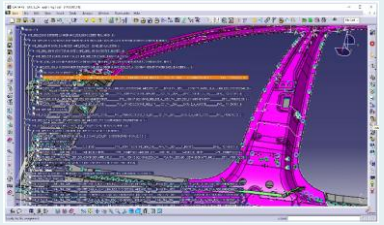
CAD System
or PDM client



PDM System

Working with CAD Data

CAD System
or PDM client



SCALE | NAFEMS

Workflow with SCALE.sdm

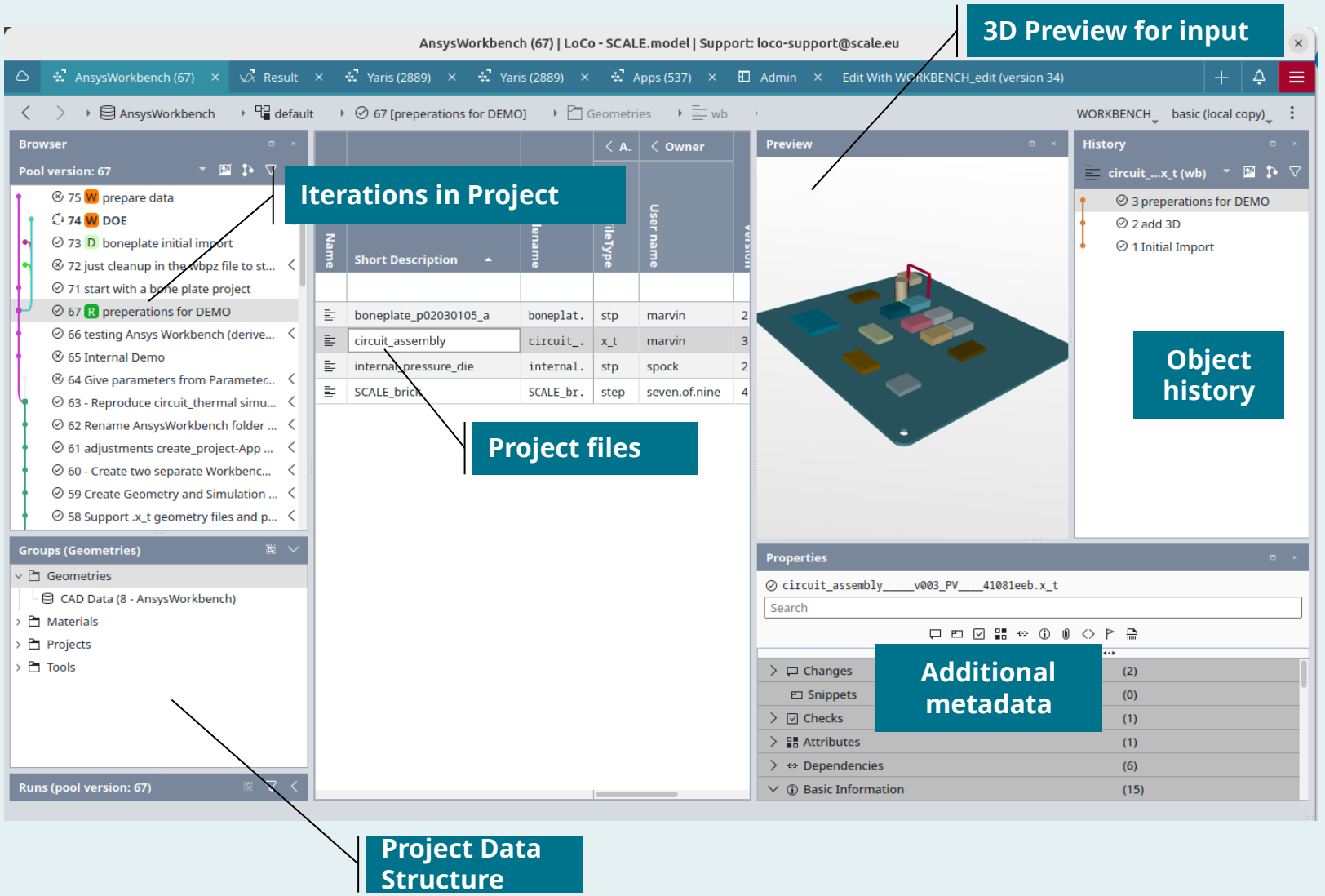
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

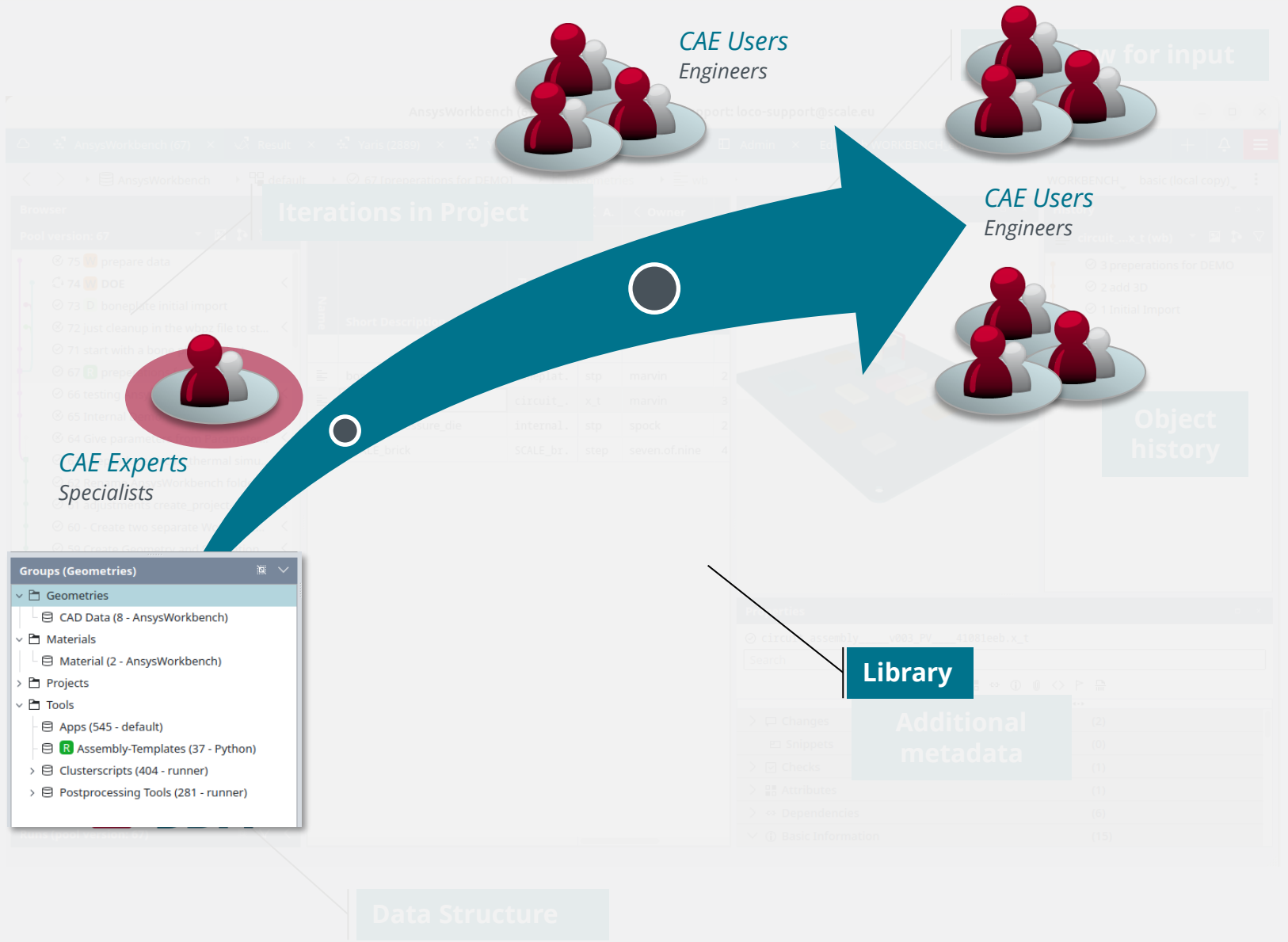
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

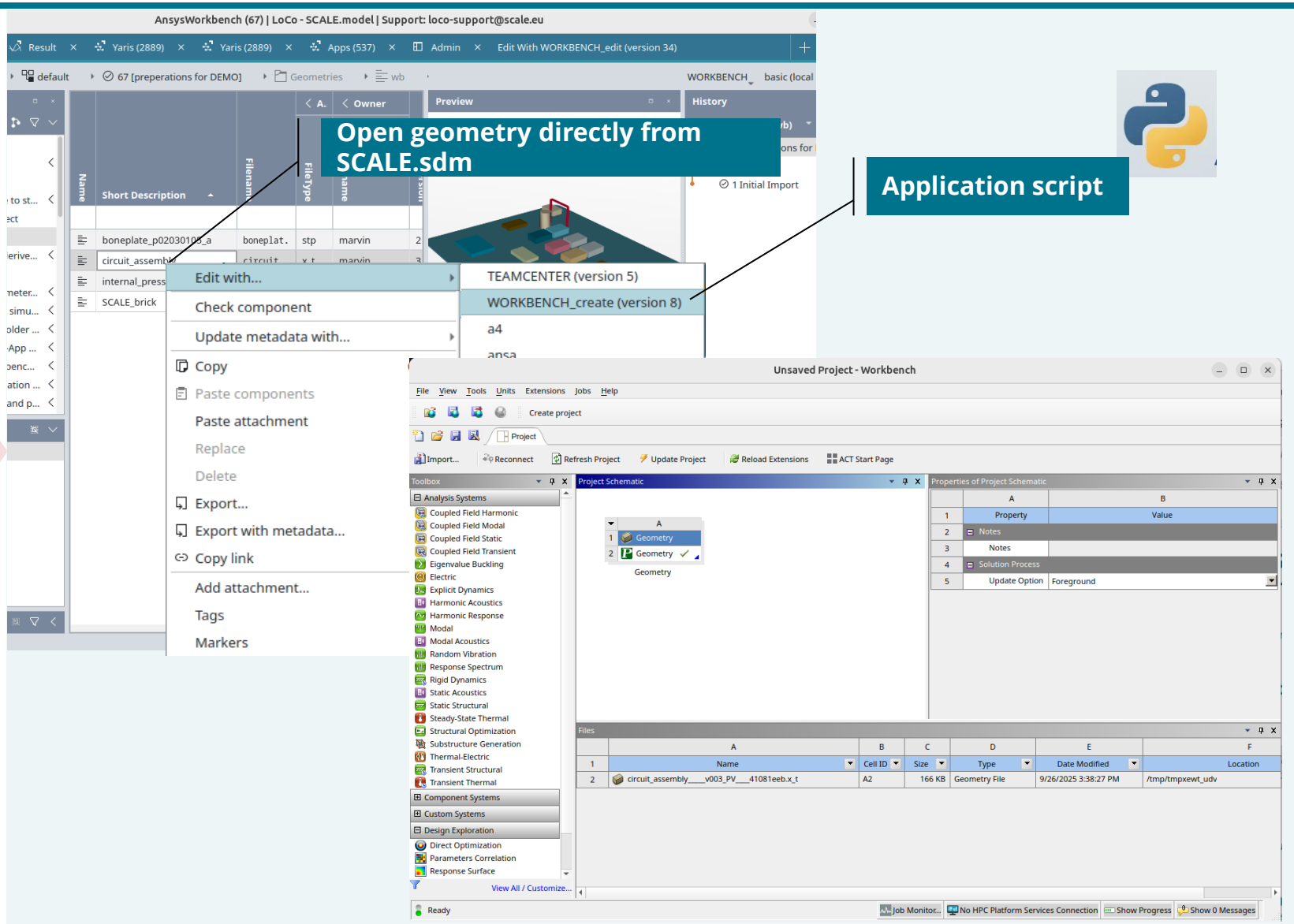
Import from CAD
Seamless Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

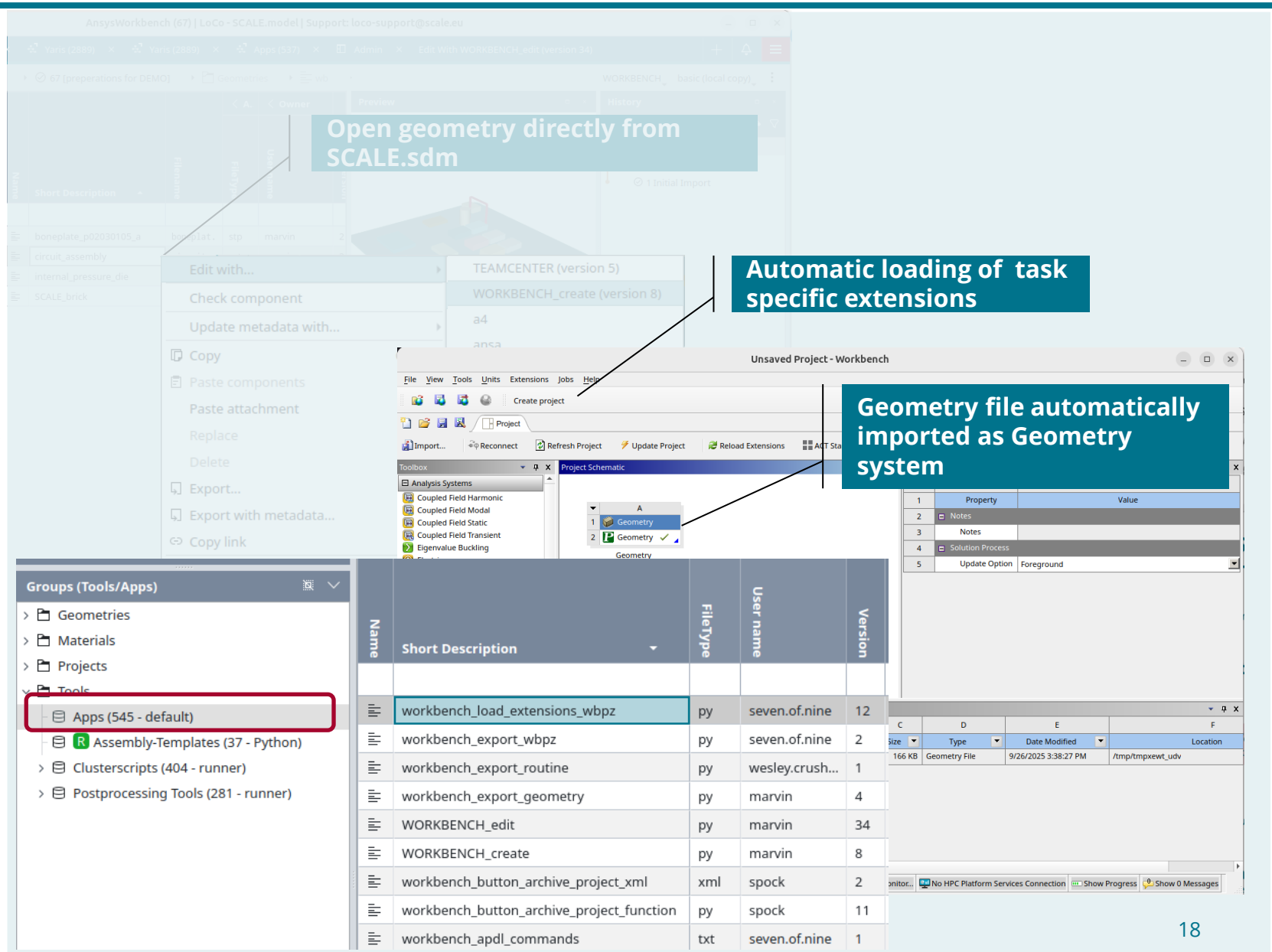
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

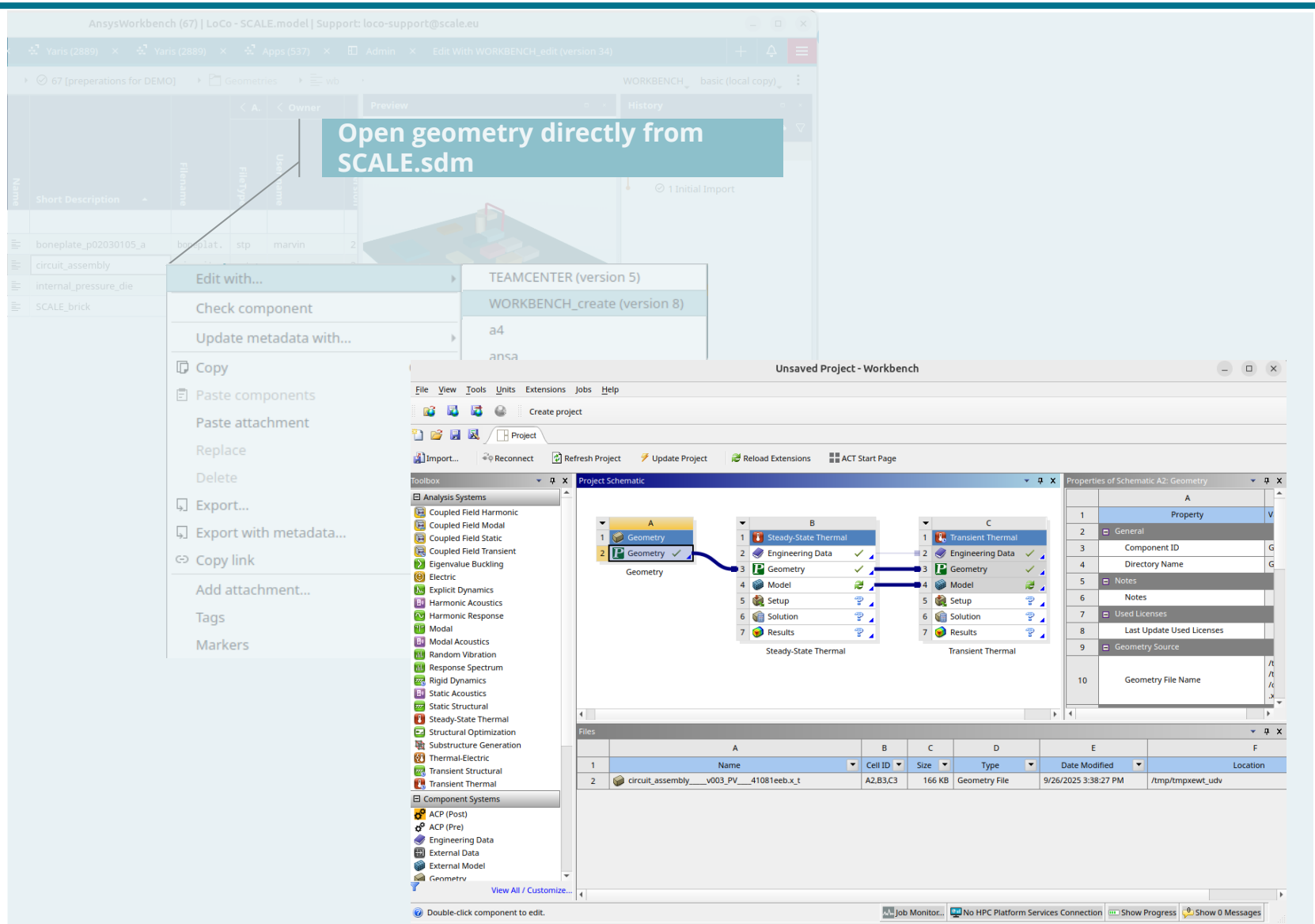
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

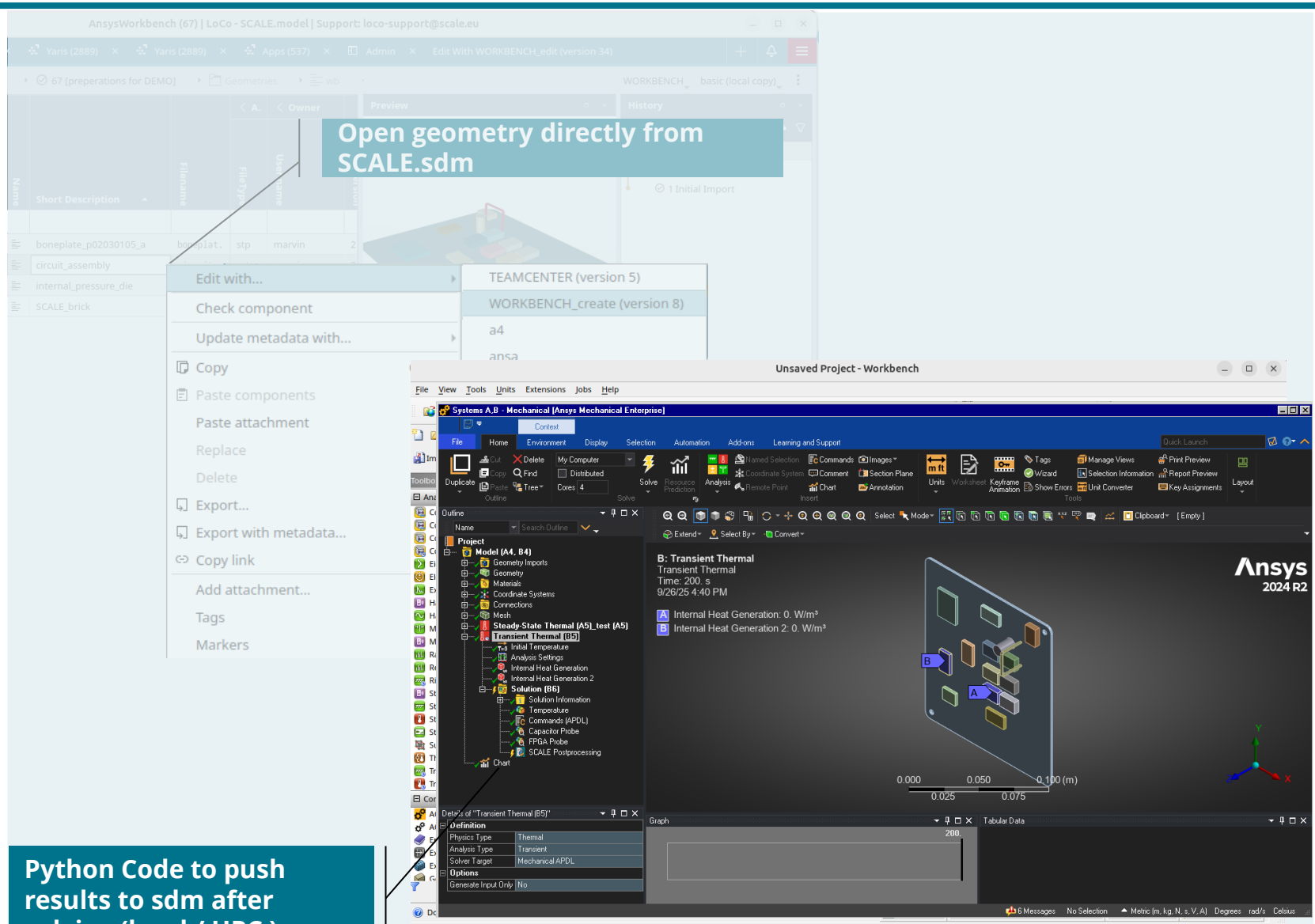
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

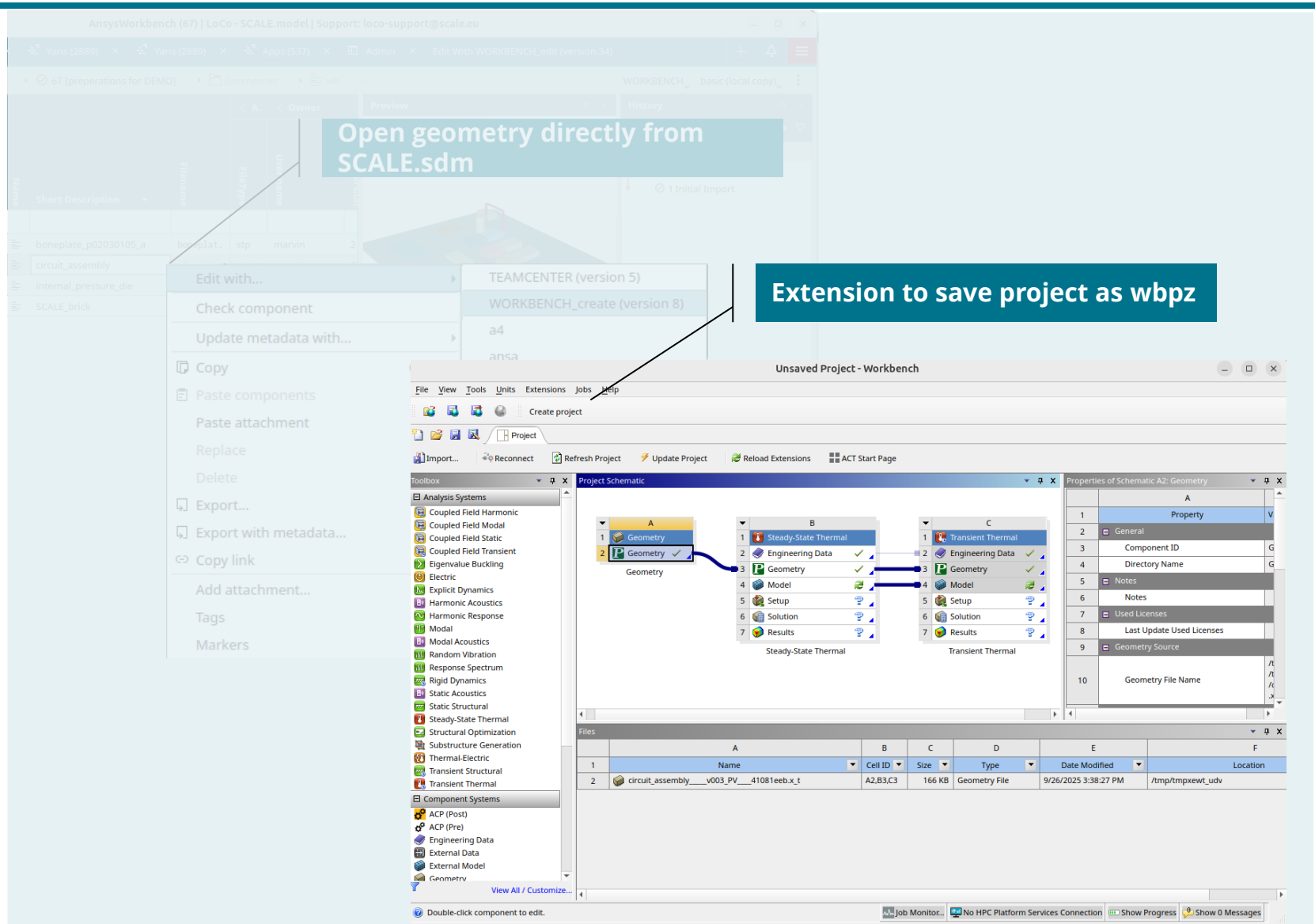
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

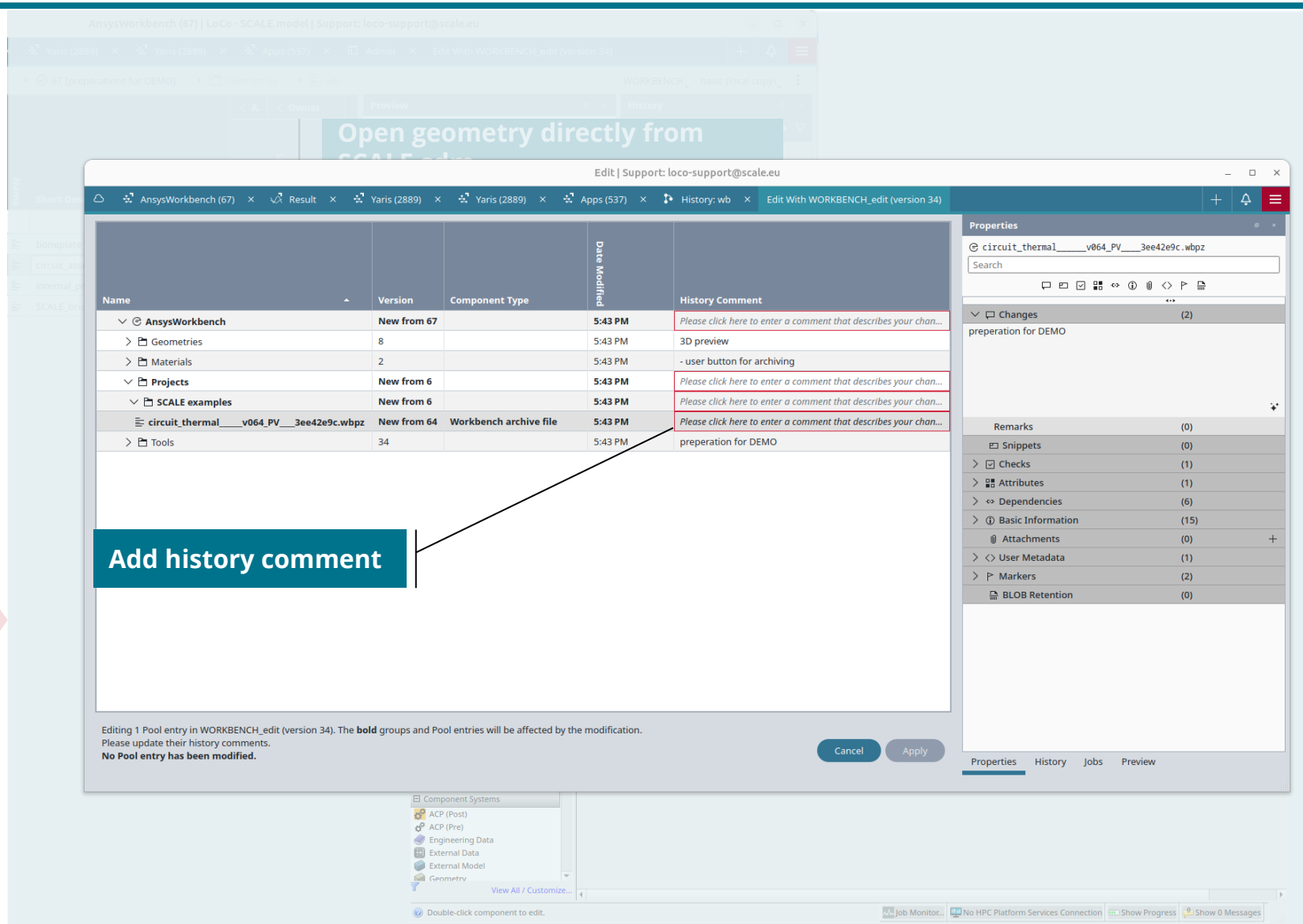
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

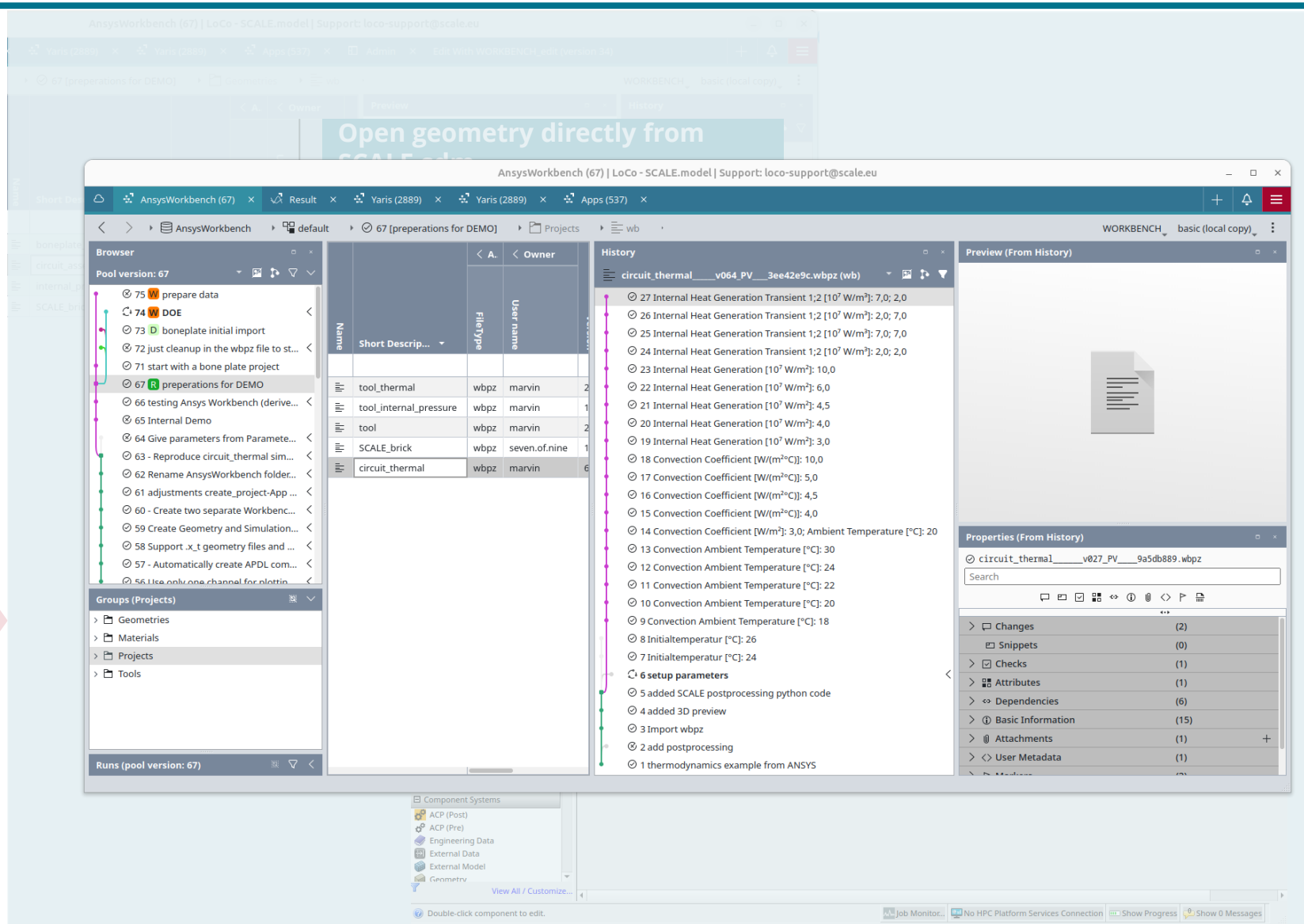
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

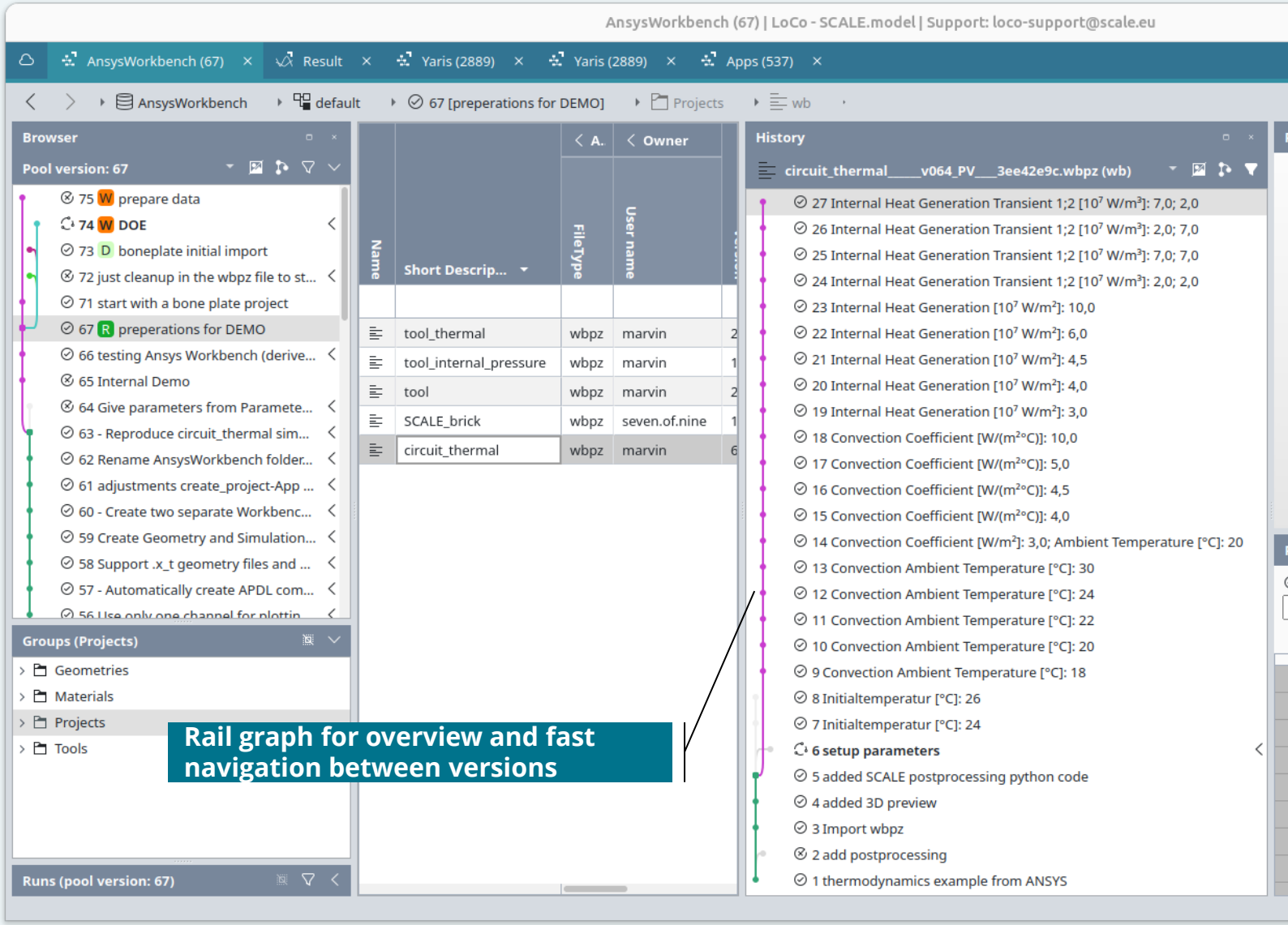
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

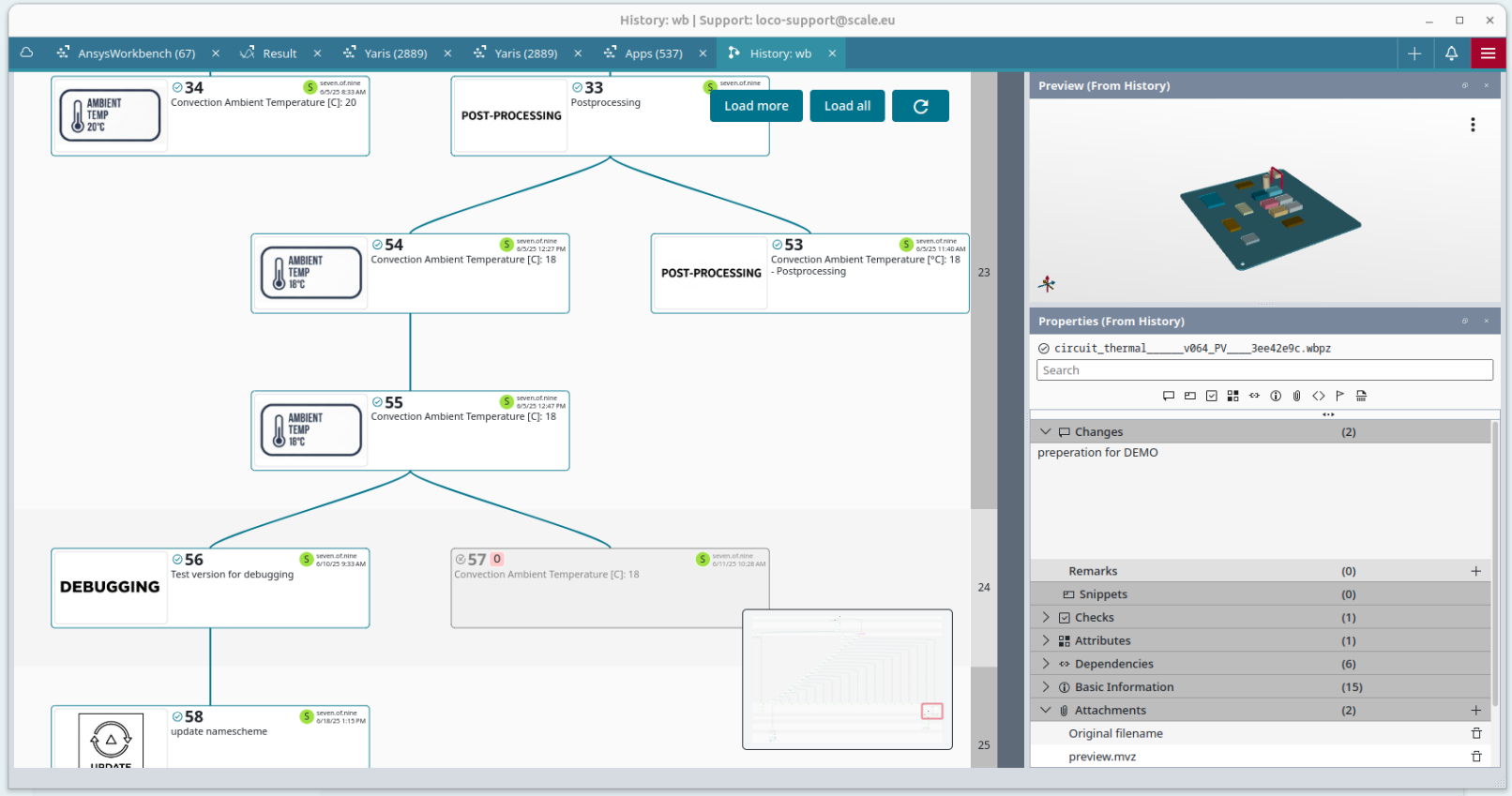
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

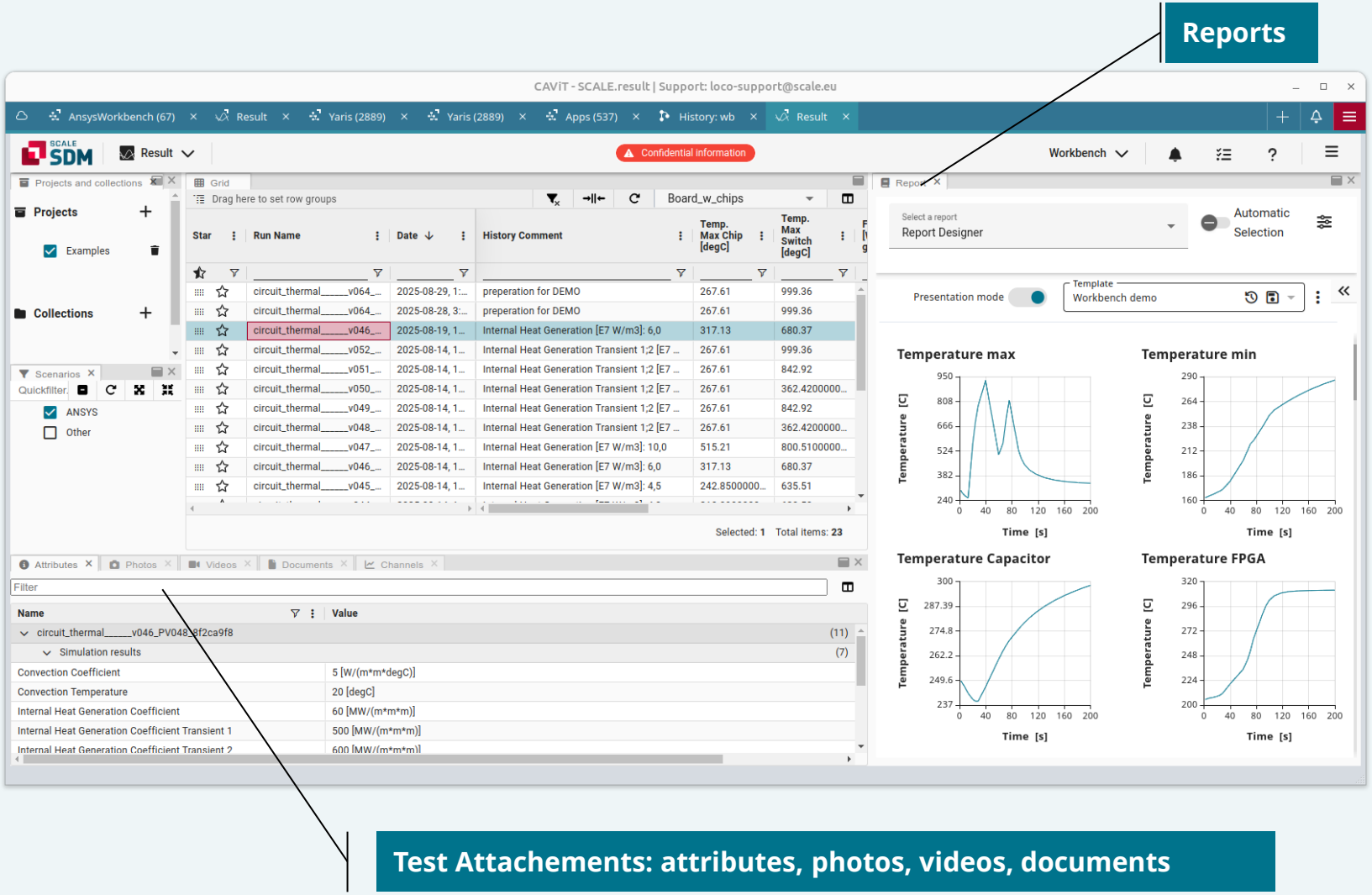
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Workflow with SCALE.sdm

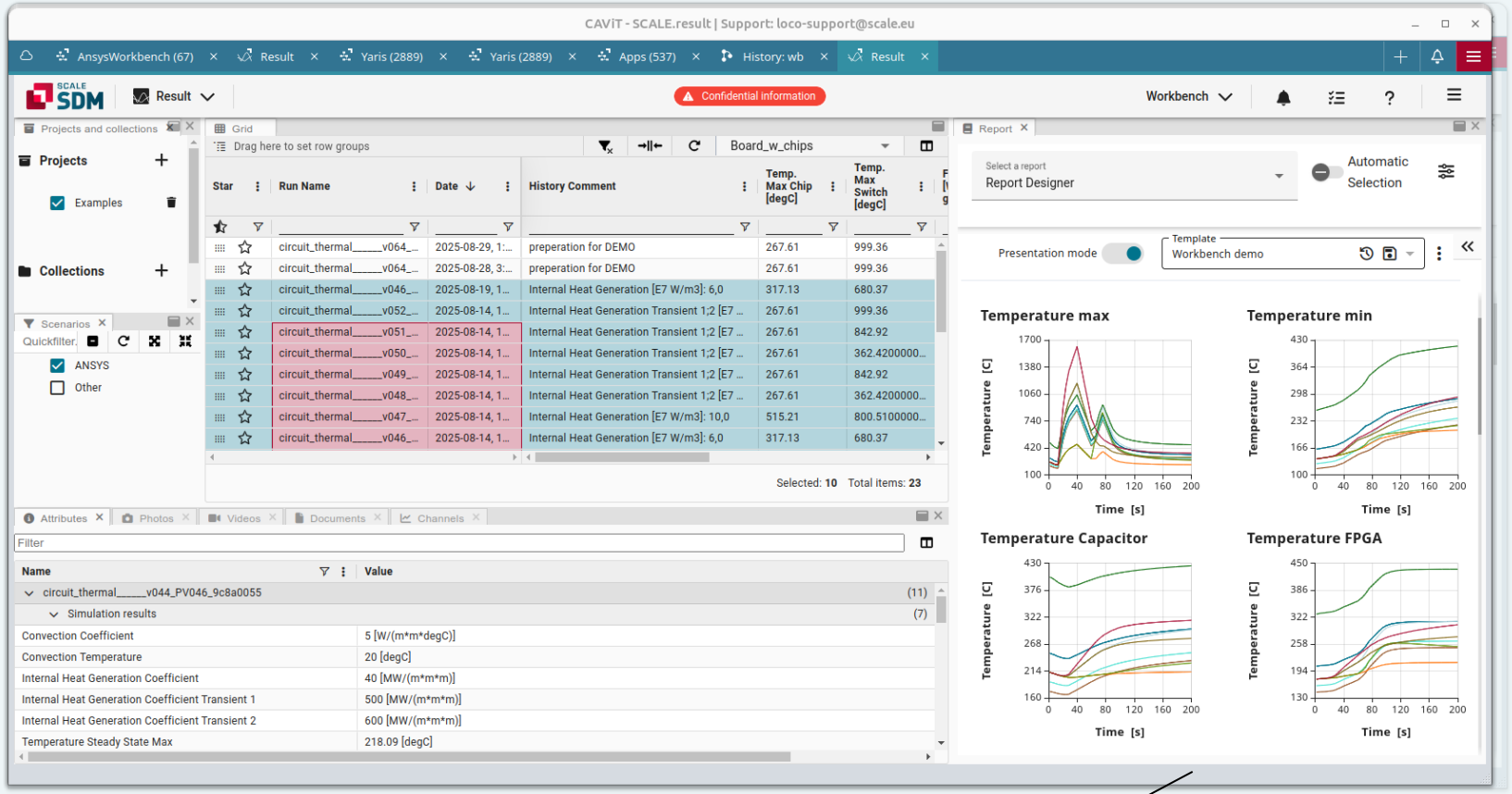
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Interactive Test comparision

Workflow with SCALE.sdm

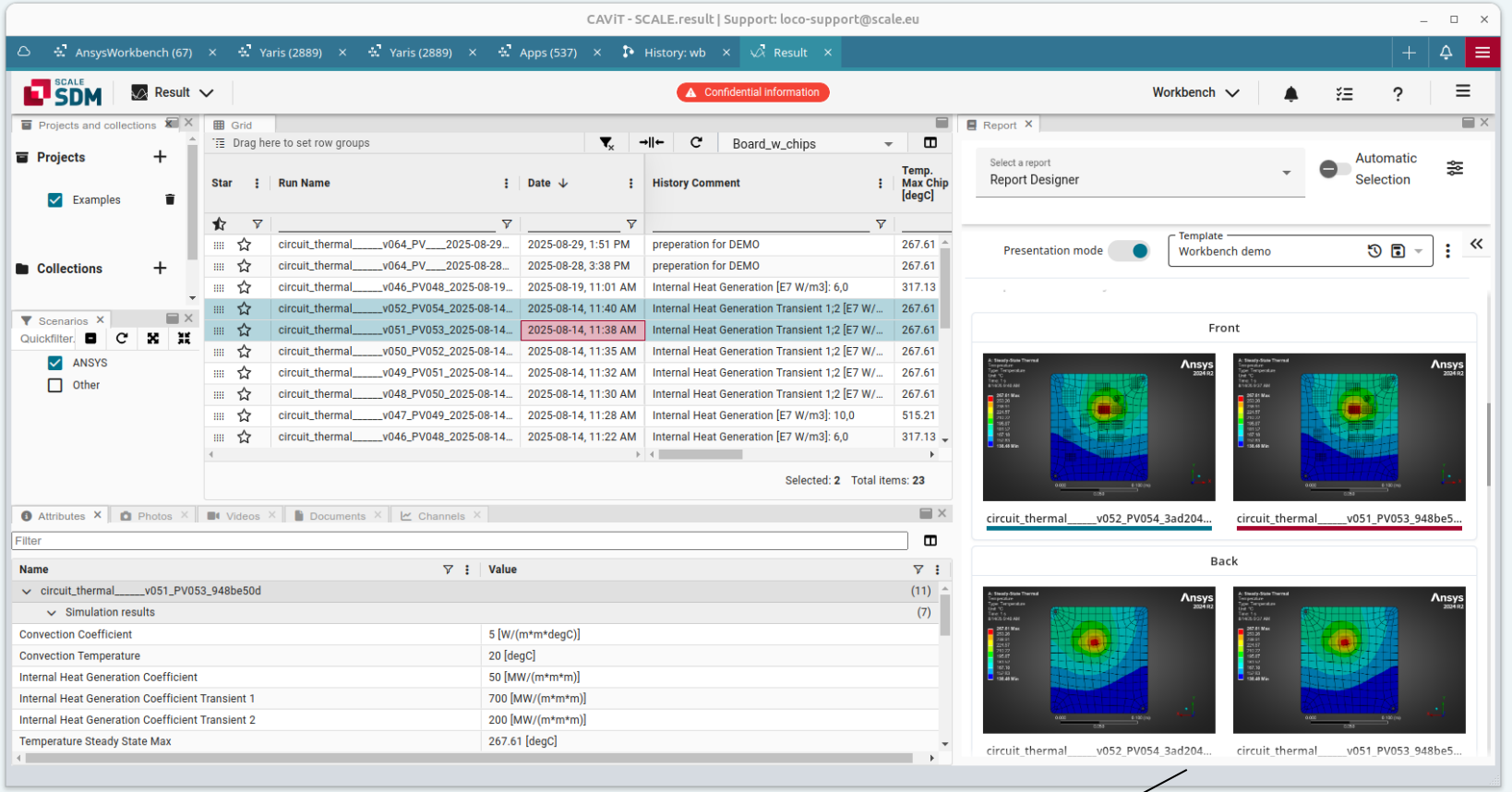
Import from CAD
Integration with PLM Systems

Project Setup
Manage and Access All Your Data

Ansys Integration
Engineering in Workbench

Version Control
Manage changes

Result evaluation
Result storage and evaluation



Interactive Test comparision

1 Challenge | Workbench Project Versioning?

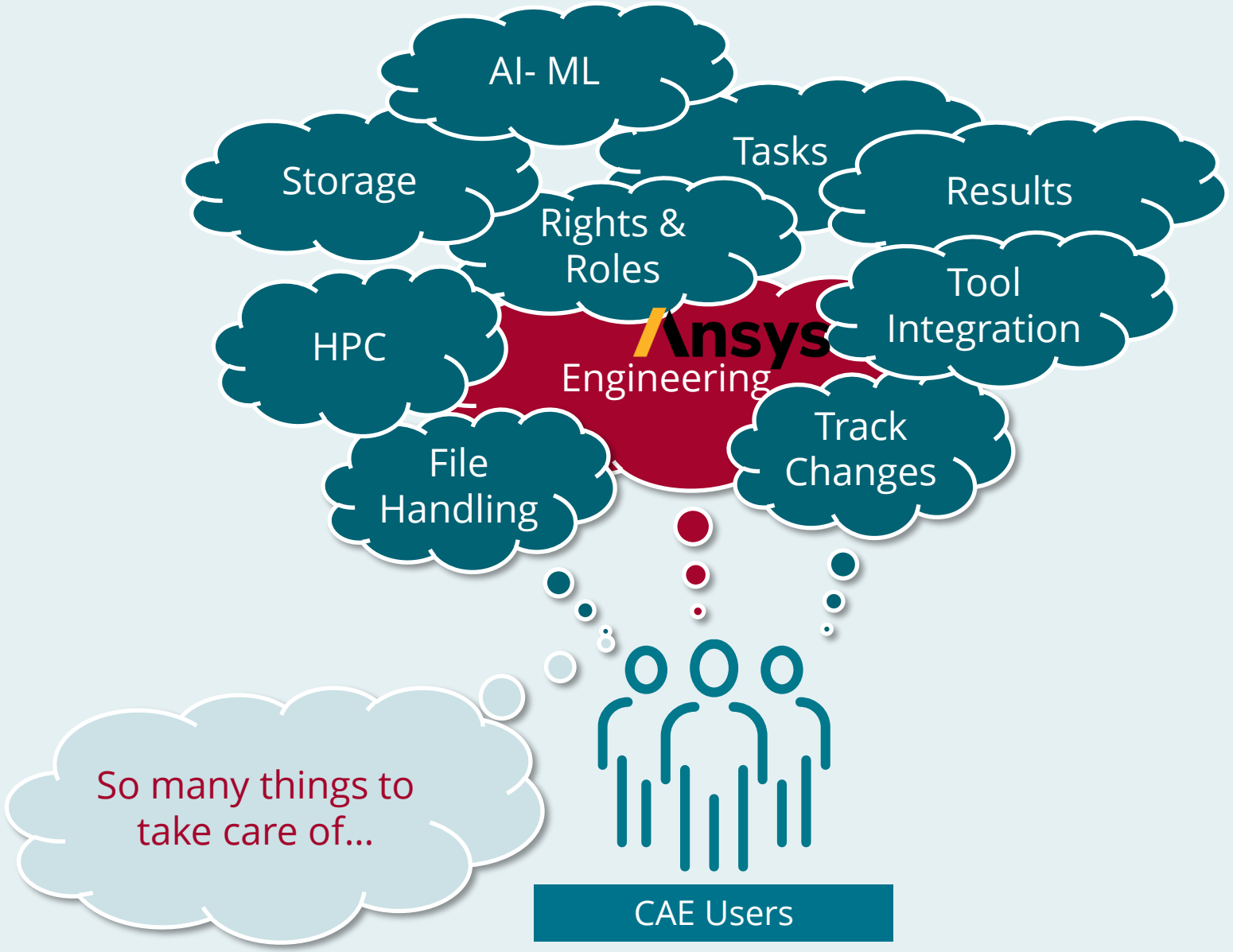
2 What is SCALE.sdm?

3 SCALE.sdm + AnsysWorkbench

4 Workflow Setup

5 Outcome & Anticipated ROIs

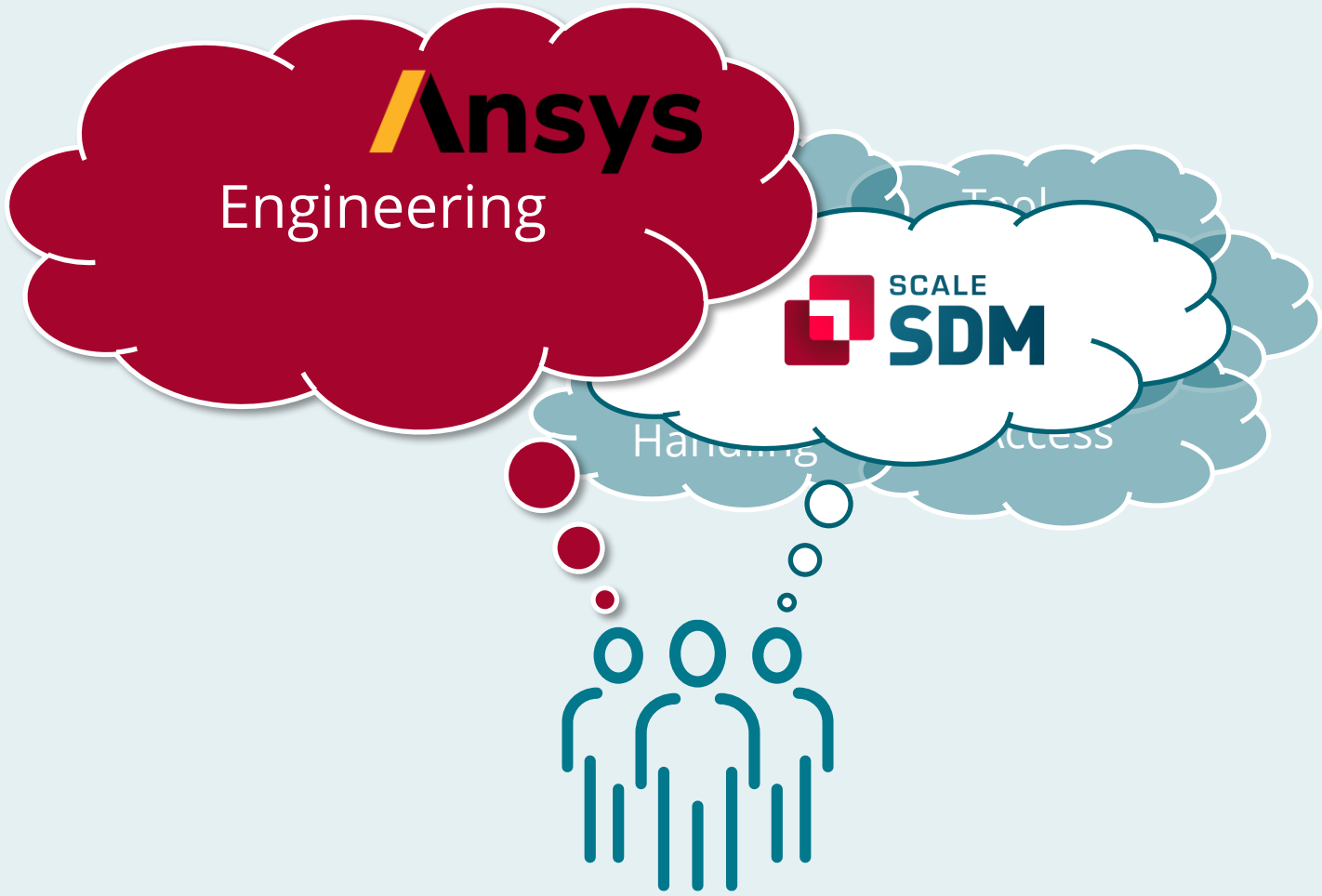
Outcomes & Anticipated ROIs



Outcomes & Anticipated ROIs

Successfull integration with Ansys Workbench

- **Centralized Truth**
  - Significantly reduce time spent finding the latest data
- **Reduced Reruns**
  - Fewer reruns due to missing context or overwritten files
- **Faster Onboarding**
  - Accelerate new engineer onboarding with reusable templates and standard workflows
- **Better Decisions**
  - Drive superior program decisions through reliable comparisons and comprehensive audit trails



SCALE | NAFEMS

SO LONG, AND THANKS

FOR ALL THE FISH

https://www.linkedin.com/company/scale-gmbh/

SCALE
IT-Solutions for CAE

SCALE.sdm | Summary

Scalable

Scale your business

Cloud-native

Runs in cloud –
available everywhere

Easy to Customize

Customize to your needs
with addons

Collaboration

Fast and easy access
to process data

Cloud ready

Version Control

Project management

Data Handling

Evaluation

Collaboration

Data compression

Security

Customization

Reports

Usability